# Microcomputer Software for Statistical Tasks

by Teja Singh

The recent surge in availability of microcomputers has meant easy access to computer programs capable of performing complex computing tasks. A pronounced trend is becoming obvious: software is fast growing in its share of the computer industry. Canada's software in 1984, for example, was worth $950 million; and it is growing at the rate of 25% this year.

The Canadian software market is expected to grow at an average annual rate of 26% in the current decade, compared with an overall growth rate of 17% for the computer industry in general. While the software available for mainframe computers (large office computers, for example) is expected to decline from the present 70% of the market to about 62% by 1986, the mini- and microcomputer software will grow accordingly.

Selection of suitable software in any specialty is a difficult job. Many packages are already on the market and their number seems to be ever increasing. How would you go about looking for a statistical package that will fulfill all your individual requirements? The answer is not an easy one when there is so much to choose from. Any choice will depend on available resources and your expectations. For example, you may want to choose one which is easy to use; and you may want one which has higher digits of accuracy in computations and results.

The user has to consider a number of factors related to his particular requirements. Are you looking for a package that includes a wide range of statistical programs, but without much in-depth treatment; or do you require a package that deals in detail only with a small subset of the entire statistical domain? Also involved are questions regarding the hardware features and details of the operational system requirements. Not the least important is the quality of documentation available for the package you intend to buy and how well it is supported. Other related considerations are the programming language itself and the compatibility of the operating system with other personal computers with which you are likely to interact. Dependability, accuracy, and the "life" of the software are also important considerations.

A detailed, comparative review of 24 statistical packages appeared in BYTE magazine recently. The packages included were: ABSTAT, AIDA, A-Stat, Dynacomp, EDA, HSD (Stats Plus, Regress II, ANOVA II), Introstat, Microstat, Micro-TSP, Number Cruncher, NWA Statpak, SAM, SpeedSTAT, SPS, STAN, Statpak, Statpro, SYSTAT, The Winchendon Group (ELF and ARIMA).

Tests conducted by the reviewers showed that the best of these software packages equalled or exceeded the accuracy of many packages running on mainframes. The reviewers described the features pertinent to each package but hedged about making specific recommendations as to which were the best; instead, they recommended a careful study of the comparison tables which they presented. The naming of a clear favorite was avoided because any such choice was predicated upon: 1) user's preference in operating systems and microcomputers, and 2) need for a particular application. Besides the factors mentioned above, the reviewers listed other considerations such as preference for a menu-driven or command-driven program, type of personal computer, the need for graphics, and the need to exchange the statistically analyzed data with other programs such as spread sheets or word processors.

Some other related packages under the same topic are: Advanced Mathematics, Basic Stat Pak, Conduit, DAISY, DATA-X, GASP, IFDAS, INTER-STAT, Keystat, Lab Statistics, MASS, MathStat, Maxi-Stat, Micro Data Analyzer, Microquest, Micro-SURVEY, Multiple Regression, Omnipak, Pairstat, Personal Data Analysis, Personal Statistics Package, SNAP, SPP, Statistical Analysis, Stat Analysis/Lin Regr, Statistics, Statistics Pac, Statistics Package, Stat Pak I, Statgraphics PC, Stepwise Multiple Regression, TECPACS, and Various.

All the available packages assume familiarity of the user with the statistical procedures being used. Almost all of the packages just mentioned are easier to use than the commonly used mainframe packages. A few allow alterations to computing programs so they can be adapted for local applications. This welcome feature, along with the resultant flexibility, enhances the use of such packages for meeting specific requirements.

The availability of PC software and the relatively easy acquisition of microcomputers have meant greater use of data bases and computer-oriented management techniques. Some of the tasks listed by the author in a previous issue of *National Woodlands* (Jan/Feb 1984) can now be performed because of the easy access which organizations and individuals now have to microcomputers.

## REFERENCES

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